

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Previously Presented): A printing system comprising a plurality of printing apparatuses, each having a printing mechanism and a buffer for spooling assigned to the printing mechanism, and at least one information processing apparatus outputting print jobs, which are connected mutually, each of the print jobs being sent from the information processing apparatus to the buffer included in any of the plurality of printing apparatuses and being printed by the printing mechanism by utilizing the spooling function of the printing apparatus, said printing system comprising:

a source apparatus specification unit that specifies a source printing apparatus, which entrusts at least one print job stored in its own buffer to another printing apparatus, in a preset range of printing apparatuses; and

a job transfer unit that itself automatically transfers the at least one print job stored in the buffer provided in the source printing apparatus specified by said source apparatus specification unit to the buffer of another printing apparatus in the preset range of printing apparatuses.

Claim 2 (Original): A printing system in accordance with claim 1, wherein said source apparatus specification unit comprises:

a first information acquisition unit that obtains first information representing a congestion status of print jobs in the buffer of each printing apparatus, which is included in the preset range of printing apparatuses among the plurality of printing apparatuses; and

a unit that detects a printing apparatus having a long queue of the print jobs based on the first information obtained by said first information acquisition unit, and specifies the detected printing apparatus as the source printing apparatus.

Claim 3 (Original): A printing system in accordance with claim 2, said printing system further comprising:

a selection unit that selects a printing apparatus having a sufficiently short queue of print jobs in the preset range of printing apparatuses, based on the first information obtained by said first information acquisition unit,

wherein said job transfer unit sets the printing apparatus selected by said selection unit to a destination of the transfer of the print job.

Claim 4 (Previously Presented): A printing system in accordance with claim 1, wherein said source apparatus specification unit comprises:

a second information acquisition unit that obtains second information representing a status of the printing mechanism of each printing apparatus in the preset range of printing apparatuses; and

a unit that detects a printing apparatus having the printing mechanism in an error status based on the second information obtained by said second information acquisition unit, and specifies the detected printing apparatus as the source printing apparatus.

Claim 5 (Original): A printing system in accordance with claim 4, said printing system further comprising:

a selection unit that selects a printing apparatus having the printing mechanism not in the error status in the preset range of printing apparatuses, based on the second information obtained by said second information acquisition unit,

wherein said job transfer unit sets the printing apparatus selected by said selection unit to a destination of the transfer of the print job.

Claim 6 (Original): A printing system in accordance with claim 1, wherein each print job output from the information processing apparatus comprises first label data representing whether or not the print job is a possible candidate for the transfer by said job transfer unit, and

said job transfer unit comprises a transfer prohibition unit that prohibits the transfer of a print job that has been determined not to be a possible candidate for the transfer based on the first label data.

Claim 7 (Previously Presented): A printing system in accordance with claim 6, wherein each print job output from the information processing apparatus comprises second label data representing a priority order of printing by the spooling function, and

said job transfer unit selects the at least one print job to be transferred, based on the second label data.

Claim 8 (Original): A printing system in accordance with claim 1, said printing system further comprising:

a job transfer information unit that informs the information processing apparatus, which is the output source of the at least one print job to be transferred by said job transfer unit, of the another printing apparatus specified as a destination of the transfer of the print job.

Claim 9 (Previously Presented): A printing system comprising a plurality of apparatus groups, each apparatus group comprising a plurality of printing apparatuses, each having a printing mechanism and a buffer for spooling assigned to the printing mechanism,

and at least one information processing apparatus outputting print jobs, which are connected mutually, each of the print jobs being sent from the information processing apparatus to the buffer included in any of the plurality of printing apparatuses and being printed by the printing mechanism by utilizing the spooling function of the printing apparatus, said printing system comprising:

- a source apparatus specification unit that specifies a source printing apparatus, which entrusts at least one print job stored in its own buffer to another printing apparatus, in a range of one certain apparatus group; and

- a job transfer unit that itself automatically transfers the at least one print job stored in the buffer provided in the source printing apparatus specified by said source apparatus specification unit to the buffer of another printing apparatus in a range of at least two apparatus groups, which includes at least the certain apparatus group to which the source printing apparatus belongs.

Claim 10 (Original): A printing system in accordance with claim 9, wherein said source apparatus specification unit comprises:

- a first information acquisition unit that obtains first information representing a congestion status of print jobs in the buffer of each printing apparatus in the range of the certain apparatus group; and

- a unit that detects a printing apparatus having a long queue of the print jobs based on the first information obtained by said first information acquisition unit, and specifies the detected printing apparatus as the source printing apparatus.

Claim 11 (Original): A printing system in accordance with claim 10, said printing system further comprising:

a target apparatus group specification unit that specifies a plurality of target apparatus groups as potential destinations of the transfer by said job transfer unit;

an acquisition unit that obtains the first information in a range of the plurality of specified target apparatus groups; and

a selection unit that selects a printing apparatus having a sufficiently short queue of print jobs in the range of the plurality of specified target apparatus groups, based on the first information obtained by said acquisition unit,

wherein said job transfer unit sets the printing apparatus selected by said selection unit to a destination of the transfer of the print job.

Claim 12 (Previously Presented): A printing system in accordance with claim 9, wherein said source apparatus specification unit comprises:

a second information acquisition unit that obtains second information representing a status of the printing mechanism of each printing apparatus in the range of the certain apparatus group; and

a unit that detects a printing apparatus having the printing mechanism in an error status based on the second information obtained by said second information acquisition unit, and specifies the detected printing apparatus as the source printing apparatus.

Claim 13 (Original): A printing system in accordance with claim 12, said printing system further comprising:

a target apparatus group specification unit that specifies a plurality of target apparatus groups as potential destinations of the transfer by said job transfer unit;

an acquisition unit that obtains the second information in a range of the plurality of specified target apparatus groups; and

a selection unit that selects a printing apparatus having the printing mechanism not in the error status in the range of the plurality of specified target apparatus groups, based on the second information obtained by said acquisition unit,

wherein said job transfer unit sets the printing apparatus selected by said selection unit to a destination of the transfer of the print job.

Claim 14 (Original): A printing system in accordance with claim 9, said printing system further comprising:

a target apparatus group specification unit that specifies a plurality of target apparatus groups as potential destinations of the transfer by said job transfer unit;

a detection unit that detects an available printing apparatus as a possible candidate for destination of the transfer by the job transfer unit in each of the plurality of target apparatus groups specified;

a management unit that collects all the available printing apparatuses in the respective target apparatus groups detected by said detection unit and stores a result of the collection as management data; and

a selection unit that selects one printing apparatus as a destination printing apparatus for the transfer by said job transfer unit, based on the management data.

Claim 15 (Original): A printing system in accordance with claim 14, wherein each of the plurality of target apparatus groups specified by said target apparatus group specification unit comprises said management unit, and

specific data including at least the available printing apparatuses in the respective target apparatus groups detected by said detection unit are transmitted between the plurality

of target apparatus groups specified by said target apparatus group specification unit, so that the total data is common to the plurality of target apparatus groups.

Claim 16 (Original): A printing system in accordance with claim 14, wherein said management unit is provided separately from the plurality of target apparatus groups specified by said target apparatus group specification unit and is actualized by a computer connected to each target apparatus group via communication.

Claim 17 (Previously Presented): A printing system in accordance with claim 1, wherein said each printing apparatus further comprises:

- a receiver unit that receives an external print job;
- an identification unit that carries out identification to determine whether or not the external print job received by said receiver unit has been sent via said job transfer unit; and
- a processing change unit that changes over a series of processing to be executed, based on a result of the identification by said identification unit.

Claim 18 (Original): A printing system in accordance with claim 17, wherein said each printing apparatus further comprises:

- an authentication unit that authenticates a source of transmission of the print job, wherein said processing change unit comprises a unit that switches over a working status of said authentication unit between execution and non-execution.

Claim 19 (Previously Presented): A printing control method adopted in a printing system that comprises a plurality of printing apparatuses, each having a printing mechanism and a buffer for spooling assigned to the printing mechanism, and at least one information

processing apparatus outputting print jobs, which are connected mutually, each of the print jobs being sent from the information processing apparatus to the buffer included in any of the plurality of printing apparatuses and being printed by the printing mechanism by utilizing the spooling function of the printing apparatus, said printing control method comprising the steps of:

- (a) specifying a source printing apparatus, which entrusts at least one print job stored in its own buffer to another printing apparatus, in a preset range of printing apparatuses; and
- (b) automatically transferring the at least one print job stored in the buffer provided in the source printing apparatus specified in said step (a) to the buffer of another printing apparatus in the preset range of printing apparatuses.

Claim 20 (Original): A printing control method in accordance with claim 19, wherein said step (a) comprises the steps of:

- (a-1) obtaining first information representing a congestion status of print jobs in the buffer of each printing apparatus, which is included in the preset range of printing apparatuses among the plurality of printing apparatuses; and
- (a-2) detecting a printing apparatus having a long queue of the print jobs based on the first information obtained in said step (a-1), and specifies the detected printing apparatus as the source printing apparatus.

Claim 21 (Previously Presented): A printing control method adopted in a printing system that comprises a plurality of apparatus groups, each apparatus group comprising a plurality of printing apparatuses, each having a printing mechanism and a buffer for spooling assigned to the printing mechanism, and at least one information processing apparatus outputting print jobs, which are connected mutually, each of the print jobs being sent from



the information processing apparatus to the buffer included in any of the plurality of printing apparatuses and being printed by the printing mechanism by utilizing the spooling function of the printing apparatus, said printing control method comprising the steps of:

(a) specifying a source printing apparatus, which entrusts at least one print job stored in its own buffer to another printing apparatus, in a range of one certain apparatus group; and

(b) automatically transferring the at least one print job stored in the buffer provided in the source printing apparatus specified in said step (a) to the buffer of another printing apparatus in a range of at least two apparatus groups, which includes at least the certain apparatus group to which the source printing apparatus belongs.

Claim 22 (Original): A printing control method in accordance with claim 21, wherein said step (a) comprises the steps of:

(a-1) obtaining first information representing a congestion status of print jobs in the buffer of each printing apparatus in the range of the certain apparatus group; and

(a-2) detecting a printing apparatus having a long queue of the print jobs based on the first information obtained in said step (a-1), and specifies the detected printing apparatus as the source printing apparatus.

Claim 23 (Previously Presented): A printing control method in accordance with claim 19, said printing control method further comprising the steps of:

(c) receiving a print job in said each printing apparatus;

(d) carrying out identification to determine whether or not the print job received in said step (c) has been sent via said step (b); and

(e) changing over a series of processing to be executed, based on a result of the identification in said step (d).

Claim 24 (Original): A printing control method in accordance with claim 23, said printing control method further comprising the step of:

(f) authenticating a source of transmission of the print job in said each printing apparatus,

wherein said step (e) comprises the step of changing over a working status of said step (f) between execution and non-execution.

Claim 25 (Previously Presented): A computer readable recording medium in which a computer program is recorded, said computer program being adopted in a printing system that comprises a plurality of printing apparatuses, each having a printing mechanism and a buffer for spooling assigned to the printing mechanism, and at least one information processing apparatus outputting print jobs, which are connected mutually, each of the print jobs being sent from the information processing apparatus to the buffer included in any of the plurality of printing apparatuses and being printed by the printing mechanism by utilizing the spooling function of the printing apparatus, said computer program causing a computer to attain the functions of:

(a) specifying a source printing apparatus, which entrusts at least one print job stored in its own buffer to another printing apparatus, in a preset range of printing apparatuses; and

(b) automatically transferring the at least one print job stored in the buffer provided in the source printing apparatus specified by said function (a) to the buffer of another printing apparatus in the preset range of printing apparatuses.

Claim 26 (Previously Presented): A computer readable recording medium in which a computer program is recorded, said computer program being adopted in a printing system

that comprises a plurality of apparatus groups, each apparatus group comprising a plurality of printing apparatuses, each having a printing mechanism and a buffer for spooling assigned to the printing mechanism, and at least one information processing apparatus outputting print jobs, which are connected mutually, each of the print jobs being sent from the information processing apparatus to the buffer included in any of the plurality of printing apparatuses and being printed by the printing mechanism by utilizing the spooling function of the printing apparatus, said computer program causing a computer to attain the functions of:

- (a) specifying a source printing apparatus, which entrusts at least one print job stored in its own buffer to another printing apparatus, in a range of one certain apparatus group; and
- (b) automatically transferring the at least one print job stored in the buffer provided in the source printing apparatus specified by said function (a) to the buffer of another printing apparatus in a range of at least two apparatus groups, which includes at least the certain apparatus group to which the source printing apparatus belongs.

Claim 27 (Previously Presented): A recording medium in accordance with claim 25, wherein said computer program further causes the computer to attain the functions of:

- (c) receiving a print job in said each printing apparatus;
- (d) carrying out identification to determine whether or not the print job received by said function (c) has been sent via said function (b); and
- (e) changing over a series of processing to be executed, based on a result of the identification by said function (d).

Claim 28 (Previously Presented): A printing system in accordance with claim 3, wherein said source apparatus specification unit comprises:

a second information acquisition unit that obtains second information representing a status of the printing mechanism of each printing apparatus in the preset range of printing apparatuses; and

a unit that detects a printing apparatus having the printing mechanism in an error status based on the second information obtained by said second information acquisition unit, and specifies the detected printing apparatus as the source printing apparatus.

Claim 29 (Previously Presented): A printing system in accordance with claim 28, said printing system further comprising:

a selection unit that selects a printing apparatus having the printing mechanism not in the error status in the preset range of printing apparatuses, based on the second information obtained by said second information acquisition unit,

wherein said job transfer unit sets the printing apparatus selected by said selection unit to a destination of the transfer of the print job.

Claim 30 (Previously Presented): A printing system in accordance with claim 11, wherein said source apparatus specification unit comprises:

a second information acquisition unit that obtains second information representing a status of the printing mechanism of each printing apparatus in the range of the certain apparatus group; and

a unit that detects a printing apparatus having the printing mechanism in an error status based on the second information obtained by said second information acquisition unit, and specifies the detected printing apparatus as the source printing apparatus.

Claim 31 ((Previously Presented): A printing system in accordance with claim 30, said printing system further comprising:

a target apparatus group specification unit that specifies a plurality of target apparatus groups as potential destinations of the transfer by said job transfer unit;

an acquisition unit that obtains the second information in a range of the plurality of specified target apparatus groups; and

a selection unit that selects a printing apparatus having the printing mechanism not in the error status in the range of the plurality of specified target apparatus groups, based on the second information obtained by said acquisition unit,

wherein said job transfer unit sets the printing apparatus selected by said selection unit to a destination of the transfer of the print job.

Claim 32 (Previously Presented): A printing system in accordance with claim 9, wherein said each printing apparatus further comprises:

a receiver unit that receives an external print job;

an identification unit that carries out identification to determine whether or not the external print job received by said receiver unit has been sent via said job transfer unit; and

a processing change unit that changes over a series of processing to be executed, based on a result of the identification by said identification unit.

Claim 33 (Previously Presented): A printing system in accordance with claim 32, wherein said each printing apparatus further comprises:

an authentication unit that authenticates a source of transmission of the print job,

wherein said processing change unit comprises a unit that switches over a working status of said authentication unit between execution and non-execution.

Claim 34 (Previously Presented): A printing control method in accordance with claim 21, said printing control method further comprising the steps of:

- (c) receiving a print job in said each printing apparatus;
- (d) carrying out identification to determine whether or not the print job received in said step (c) has been sent via said step (b); and
- (e) changing over a series of processing to be executed, based on a result of the identification in said step (d).

Claim 35 (Previously Presented): A printing control method in accordance with claim 34, said printing control method further comprising the step of:

- (f) authenticating a source of transmission of the print job in said each printing apparatus,
- wherein said step (e) comprises the step of changing over a working status of said step (f) between execution and non-execution.

Claim 36 (Previously Presented): A recording medium in accordance with claim 26, wherein said computer program further causes the computer to attain the functions of:

- (c) receiving a print job in said each printing apparatus;
- (d) carrying out identification to determine whether or not the print job received by said function (c) has been sent via said function (b); and
- (e) changing over a series of processing to be executed, based on a result of the identification by said function (d).

Claim 37 (New): A printing system in accordance with claim 2, wherein the first information acquisition unit continuously obtains said first information.